

INNOVATION AND IMPACT

*Reviewing the influence
and legacy of Spore*

INTERVIEW

*Edward Mabaya explores
what is needed to scale digital
projects in agriculture*

AGRI-FINANCE

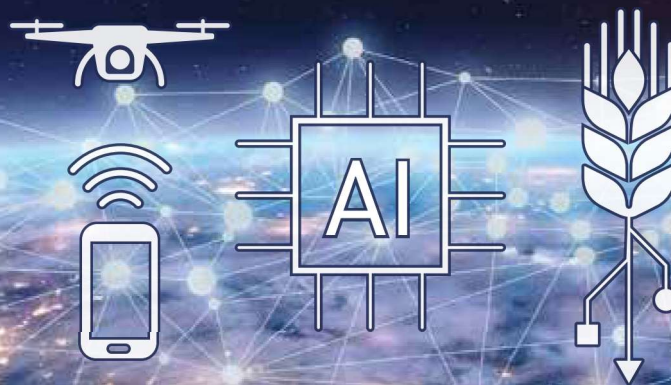
*Looking to the future for credit
and finance solutions*

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SPORE

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Smart farming

TRANSFORMING AGRICULTURE WITH ARTIFICIAL INTELLIGENCE



A global perspective on agribusiness and sustainable agriculture



REDUCING FOOD IMPORTS

St. Lucian youth cooperative mushrooms into success

Using temperature-controlled technology and sustainable farming techniques, Marquis River Farm has replaced St. Lucia's imports of foreign mushrooms with domestic production, while growing local demand by 400%.

Natalie Dookie

To help address St. Lucia's vast fruits and vegetables import bill, and the region's high youth unemployment rate, philanthropist Peter Dillon set up Marquis River Farm – a youth-owned cooperative – in 2014. In addition to providing the land and capital to help start the cooperative, Dillon and his wife Pattie trained 15 young men and women, who were previously unemployed, on how to farm profitably. The cooperative operates on a profit-sharing, worker-ownership model where net profits are split three-ways: re-payment of the start-up loan which is interest-free, building the farm's savings, and profit sharing among the workers.

With St. Lucia importing mushrooms valuing on average €0.19 million per year, Dillon decided that this high value crop presented a good opportunity for import substitution and founded the brand Simply Mushrooms. When mushroom production started in 2014, local demand was 205–227 kg/week; today, the cooperative sells 680–907 kg/week. The varieties grown are white (50%), brown (40%) button mushrooms known as creminis, and portobello (10%). Restaurants, hotels and private homes account for most of Simply Mushrooms sales, as well as local supermarkets, including a weekly supply to all nine Massy Stores, the largest supermarket chain in St. Lucia. As a result of Simply Mushrooms' production, St. Lucia stopped importing mushrooms in 2018.

Most mushroom species need a cool environment with temperatures of around 21°C to grow so the cooperative invested in the required technology.



A youth-owned cooperative is selling up to 900 kg of mushrooms a week in St Lucia



680-907 kg/week

of mushrooms is sold by Marquis River Farm

"The mushrooms are grown indoors, in climate-controlled refrigerated shipping containers outfitted with air conditioning units, which shield them from the environmental stress of a tropical climate. The containers are also hurricane-resilient, constructed close together, with firm foundations. The units are solar-powered, which has resulted in the farm's electric bill reducing from EC\$8,000 (€2,704) per month to EC\$4,000 (€1,352)," Dillon explains.

The farm uses the 3 t of high-grade compost generated as a waste product from the mushrooms to sustainably cultivate salad greens and microgreens,

including arugula, pea, radish, mustard and beet shoots. Constantly innovating, Marquis also recently began producing a liquid seaweed extract, taking advantage of readily available sargassum seaweed, which has become a nuisance to coastal life. With production of seaweed fertiliser – approximately 1,360 l per month – the farm is well on its way to becoming fully self-sufficient.

Dillon wants to take his youth cooperative business model Caribbean-wide. "This project is not only profitable but it is sustainable, modular and scalable, making it easy to implement. There are many benefits of agricultural import substitution, such as foreign exchange savings, and increased employment especially in rural areas for young people and women," he says. Actively seeking investors, Dillon wants to set up organic mushroom cooperatives in Antigua and Barbuda, Grenada, and St. Vincent and the Grenadines. ■